

### REMARKS

Applicants previously presented claims 13 through 32 for examination. The above-identified Office Action confirmed and made final the holding of a prior restriction requirement, objected to the drawings, and rejected claims 13-16 and 23-26. In this Reply, Applicants have withdrawn, without prejudice, claims 17-22 and 27-32 from considerations. Accordingly, claims 13-16 and 23-26 remain pending for examination. Applicants respectfully request that the Examiner reconsider the application in light of the remarks expressed herein.

#### Information Disclosure Statement

A prior office action dated January 20, 2006 indicated that a set of references previously submitted were not legible. Though Applicants were not certain why that set of references were not legible, in response to the prior office action, following suggestions made therein, those references were re-submitted with a new Form PTO 1449 just for those references. In this Office Action, 41 references were crossed out from the new Form PTO 1449, with no explanation.

Out of the 41 references, one was a Japanese patent with document number JP 08196741. In the new Form PTO 1449, Applicants mistakenly indicated that the Japanese patent was without translation, though translation was included. As to the remaining 40 crossed-out references, Applicants respectfully request identifying defects in the 40 references so as to allow Applicants an opportunity to correct them. However, upon review, if appropriate, Applicants respectfully request returning the initialed version of the PTO Form 1449 for the 41 references.

#### Objections to the Drawings

The drawings were objected to because the current drawings allegedly do not show every feature of the invention specified in the claims. To prevent complicating the application, Applicants respectfully propose submitting new drawings after final resolutions of the claims.

Claim Rejection under 102

Claims 13-16 and 23-26 were rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Siefert (US 5,904,485). For at least the reasons set forth below, Applicants respectfully disagree with the rejections of these claims.

In general terms, Siefert pertains to teaching a student in a style that fits the student. It has an Intelligent Administrator (IA) that helps determine what to present to the student. For example, if "the student has successfully completed 12 of 60 lessons in analytic geometry", "the IA decides that lesson number 13 should be given next."<sup>1</sup> After presenting the materials to the student, the IA assesses the student. Based on the assessment, if the IA concludes that the student does not understand the materials, such as falling below a certain standard, the material will be "presented in a different way."<sup>2</sup> "If that fails, after a predetermined number of attempts, then the IA patches the student into a Subject Master Expert."<sup>3</sup>

In other words, from a general sense, Siefert's system teaches a student. If the student does not understand, the system teaches the student again in a different way. If that still does not work, the system lets an expert teach the student. Siefert does not teach or suggest numerous features in Applicants' claimed invention.

Applicants' independent claim 13 includes a number of limitations, such as the following with emphasis added:

After the presentation of materials regarding a specific area of the subject to the user, and further after the user has been assessed to have achieved at least a passing grade or to have understood the specific area

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selecting one or more areas of the subject for the user to work on

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after selecting the one or more areas, selecting the specific area of the subject for the user to work on

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<sup>1</sup> Col. 9, lines 16-19, in Siefert.

<sup>2</sup> Siefert's Abstract.

<sup>3</sup> Col. 9, lines 65-67, in Siefert.

Claim 13 also states that "the specific area is selected for the user without depending on whether the user has been assessed to have achieved a certain satisfactory level of understanding in the one or more areas."

In a very general sense, the above limitations in Applicants' claim 13 teach that (a) after presenting materials on area X of a subject to a user and after assessing the user to have understood area X, area Y of the subject is selected; (b) after selecting area Y, claim 13 goes back and selects area X for the user; and (c) area X is selected independent of whether the user has been assessed to have achieved a certain satisfactory level in area Y.

Review should be very important in educational or training systems. Most of us have encountered situations where we have forgotten what we have learnt, and would appreciate some forms of review to refresh our memory. As subject matter becomes more complicated, our need for review increases, especially when we are learning an inter-disciplinary subject, or solving inter-disciplinary problems. For example, when we encounter the problem of performance degradation due to temperature increase in an integrated circuit, probably some of us would like to design a heat-sink with fins on the integrated circuit, and would like to have a review on the subject of heat-flow on a heat-sink with different types of fins.

Many prior art computer-aided educational system seems to assume that students remember everything they have learnt, and just keep on teaching new areas. If a student wants to review certain subject matter, she can go back and search for it. However, most students generally do not go back; they typically proceed forward and believe that once they have learnt a subject, they will not forget. As forgetfulness and lack in understanding start to build up, not for long a typical student will be totally lost, with his interest in learning the subject significantly diminished.

Like many of the prior art systems, Siefert's system also does not go back. Rather, Siefert's Intelligent Administrator introduces the next level of materials to the user if the user has been assessed to understand a lower level of materials. Siefert does not go back and introduce materials that the user has been assessed to have understood, let alone after another area has been selected for the user to work on. The following citations from Siefert provide an example of such deficiencies:

"Student's present standing. The PROFILES contain a statement of the student's previous accomplishments, which indicate the student's present standing, or status. From a lifetime viewpoint, the present standing refers to the present educational level of the student, such as fifth grade, or college sophomore.

From a more focused viewpoint, the present standing refers to the courses presently being taken, and the progress made in each. For example, in a high-school course in algebra containing 60 lessons, the present standing will indicate the number of lessons successfully completed."<sup>4</sup>

"Based on PROFILES, the IA assesses a student's current standing within a curriculum, and determines the skills required for the student's present advancement. For example, the IA may determine that a given student stands at the beginning of the junior year in high school, and that the student has successfully completed 12 of 60 lessons in analytic geometry. Based on this assessment, the IA decides that lesson number 13 should be given next."<sup>5</sup>

As shown in the above example, Siefert teaches that if the student has successfully completed 12 of 60 lessons, the IA gives the student the next lesson, lesson 13. Siefert's IA does not go back and select, for example, lesson 10 again for the student.

Siefert does not teach or suggest going back and selecting a unit that the student has previously been assessed to have understood, let alone after selecting another unit for the student.

Thus, Siefert not only does not teach or suggest at least the limitations cited above in Applicants' claim 13, Siefert teaches away from Applicants' claimed invention because Siefert consistently teaches advancing to the next unit if the student has been assessed to have understood an earlier unit.

For at least the reasons set forth above, Applicants submit that independent claim 13 and independent claim 23, which includes a number of similar limitations as in claim 13, are patentable over Seifert. Since claims 14-16 depend from and add additional features to independent claim 13, and claims 24-26 depend from and add additional features to independent claim 23, Applicants submit that these dependent claims are also

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<sup>4</sup> Col. 8, lines 4-15, in Siefert.

<sup>5</sup> Col. 9, lines 10-19, in Siefert.

patentable for at least the reasons discussed above, as well as for the features that they add.

The Office Action also cited Col. 9, lines 14-19, 62-67 and alleged that in those sections, "Siefert discloses wherein one or more additional areas or a third area or a fourth area of the subject may be selected for the user to work on after the user has been previously assessed to have a certain satisfactory level of understanding in the area and depending on the time elapsed from the time when the user has been assessed to have achieved a certain level of understanding in the third area."<sup>6</sup> Applicants respectfully disagree. Col. 9, lines 14-19 of Siefert says that when the IA determines that a student has successfully completed 12 of 60 lessons, the AI will provide lesson 13 next. Col. 9, lines 62-67 of Siefert says that the AI will attempt a different teaching strategy if the student is learning at a slower than desired speed; and if that fails after a few attempts, the IA will patch the student into an expert. There are no teachings or suggestions of selecting an area depending on the time elapsed from when the user has been assessed to have achieved a certain level of understanding in an area.

In addition, the Office Action cited Col. 14, lines 40-58 and alleged that in those sections, "Siefert discloses wherein the area is selected for the user without depending on whether the user has been assessed to have achieved a certain satisfactory level of understanding in the one or more additional areas."<sup>7</sup> Applicants respectfully disagree. Those sections of Siefert describe an approach to teach a student when the student is deficient, which is a HELP screen available at the student's request. It is not clear where in those sections one can find support for the Office Action's allegations. If the Office Action argues that the HELP screen is the area selected for the student, this is inappropriate at least because this HELP screen is provided to the student at the student's request. In other words, the HELP screen is not selected for the student.

As to dependent claims 14, 15, 24 and 25, the Office Action also cited Col. 9, lines 10-19 and alleged that in those sections, "Siefert discloses ... wherein the subject includes a broad area (i.e. analytic geometry) and a narrow area (i.e., lesson number 13),

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<sup>6</sup> Page 4, lines 4-9, of the Office Action.

<sup>7</sup> Page 4, lines 9-12 of the Office Action.

with the broad area covering the narrow area; and the suggestion can be on the broad area or the narrow area...<sup>8</sup> Applicants again respectfully disagree. Those sections of Siefert teach that the IA decides a specific lesson out of a group of lessons in analytic geometry to be given to the student. In other words, Siefert's IA decides which lesson regarding the subject of analytic geometry to be given next. There is no teaching or suggestion of separating analytic geometry into at least one narrow area, and one broad area covering the narrow area, and allowing the selection of the broad area or the narrow area.

For at least the reasons set forth above, Applicants submit that claims 13-16 and 23-26 are patentable over Seifert. Accordingly, Applicants respectfully request that the 102(e) rejections of these claims be reconsidered and withdrawn.


#### Summary

It is submitted that claims 13-16 and 23-26 are patentably distinct from the cited references. Reconsideration of the application and an early Notice of Allowance are earnestly solicited.

In the event that the Examiner, upon reconsideration, determines that an action other than an allowance is appropriate, the Examiner is requested and authorized to telephone Applicants' representative prior to taking such action, if the Examiner feels that such a telephone call will advance the prosecution of the present application.

Any required fee in connection with the filing of this response is to be charged to Deposit Account No. 50-0727.

Respectfully submitted,



By: \_\_\_\_\_  
Peter P. Tong  
Registration No.: 35,757  
1807 Limetree Lane  
Mountain View, CA 94040  
(650) 625-8192

<sup>8</sup> Paragraph 5 on page 4 of the Office Action.